

**TECHNICAL SUBMITTAL  
C-COAT  
ENERGY SAVING COATING SYSTEM**

**PROJECT: Al Fanar School, Nad Al Sheba, Dubai UAE**

**CLIENT: The Al Barari Development Company LLC**

**CONTENT**

1. C-COAT Introduction
2. Project objectives and plans
3. Certificate of Conformity DUBAI
4. Technical Data Sheet - TDS
5. Field Report - Project Italy
6. Thermal Resistance of C-COAT
7. HACCP Certificate
8. AS 1530.3 FR Test Results
9. Actual photos during and after application

## **C-COAT Insulation Australia Pty Ltd Introduction:**

C-COAT Insulation Australia Pty Ltd is the worldwide leading supplier of cutting-edge Thermal Insulating Coating (TIC) systems and Fire Resistant Coating with a vision to make the world a better place by supplying revenue-positive systems to reduce energy usage and protect people, property and the environment.

This Australian-owned formulation, originally developed for the space industry and fine-tuned over several years, is created and produced by our innovative R&D team of professionals including engineers, physicists, technologists, chemists and our dedicated support staff. C-Coat products are ideal for use in residential, commercial and a range of industrial settings such as process and petrochemical plants, gas and hot liquids pipelines, transport, marine, mining, aerospace and defence.

Saves on heating and cooling costs, reduces building maintenance by improving the insulating capacity of the building envelope, C-COAT reduces your energy bills and complements results proposed by solar and wind power systems.

In addition C-COAT has a unique ability to produce a 'safe-to-touch' finish when applied over hot metal surfaces, which helps prevent skin burn injuries.

C-COAT is a revolutionary new and modern generation of water-based energy-saving TIC system, water resistant, blocks condensation, protects against rust, decreases vibration and noise, is non-expanding, UV stable and comes with fire-resistant options.

Date: 19/12/2023

Signature:



Serge Popovich  
DIRECTOR

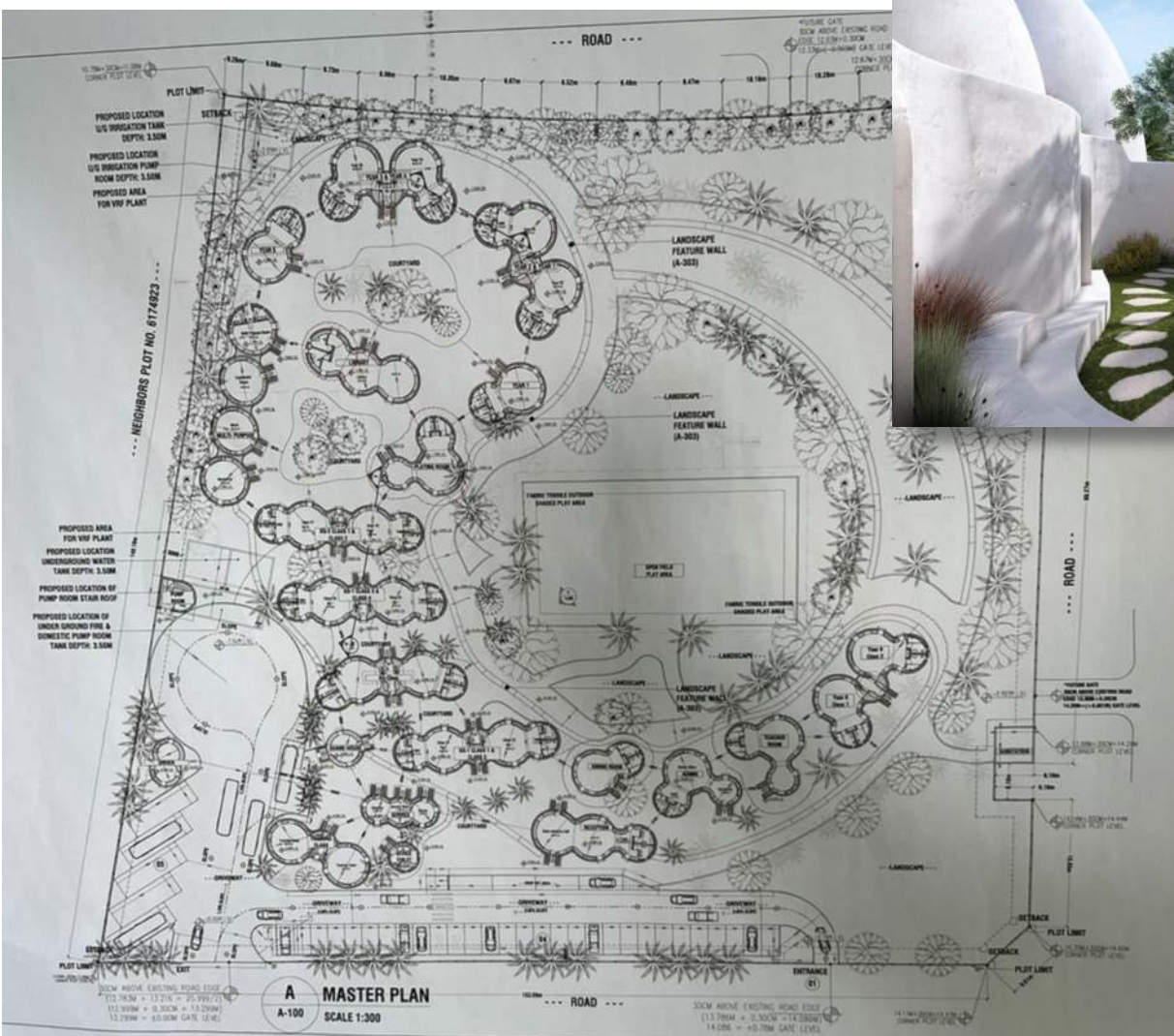
## The plans and designs - Al Fanar School, Nad Al Sheba, Dubai

The project is made by “The Al Barari Development Company LLC” for the unique dome shaped structures for Al Fanar school in Dubai.

The objectives are to protect the school structures from the extreme heat during summer without interfering with manufacturing and building processes and smoothly integrate it to exterior and interior design.

We have supplied our latest cutting edge technology, C-COAT Thermal Insulating Coating material to ensure Students and school staff experiencing a comfortable atmosphere inside the classes during all seasons. The structures are also waterproofed while guaranteeing the breathability that will prevent the development of fungi and mould. The product is safe to touch, use near food facilities and 100% environmental safe.

On following pages please find support details and attachments for review.



## Support Test Certificates: C-COAT Certificate of Conformity in Dubai UAE

		
<b>TYPE 1B CERTIFICATE OF PRODUCT CONFORMITY</b>		
ISSUED TO	:	URBAN GREEN INSULATION AND FIRE PROTECTION L.L.C DY-14, AREX BUILDING, OFFICE NO 45 46, AL JADDAF, DUBAI UAE
	Representative	SAIFUDDIN TAHER DIRECTOR
PRODUCT DESCRIPTION	:	C-COAT T250ST Coating
	Batch Number:	#01112022-11:05-1EU
	QUANTITY:	10000 Ltr
	MANUFACTURER:	C-COAT INSULATION Poland Pty Ltd Sp. z o.o
STANDARD SPECIFICATIONS:	:	AL SA'FAT 2023 2nd Edition
TITLE OF STANDARD	:	2023 Al Sa'fat Dubai Green Building System
SPECIFIC RULES NO.	:	DM-DCLD-RD-DP32-5111 (IC)
EVALUATION REPORT NO.	:	RA23052120
SAMPLE ID. NO./SENDER NO.	:	AJ4921
<b>ATTESTATION</b>		
<p><i>Dubai Central Laboratory Department-Certification and Quality Control of Products Section hereby attests that the product as described above conforms to the requirements of the standard specifications as mentioned. This attestation is based on the results of tests conducted on samples selected from the above product using a sampling procedure given in the specific rules and evaluated as per attached Evaluation Report. It is applicable only to the product as described in this Certificate and does not cover the entire production of the factory.</i></p>		
		
CB-PRD-001	PRODUCT CONFORMITY	
Manager- Certification and Quality Control of Products Section  Dubai Central Laboratory Department	<b>Certificate No:</b> BBCE-2023-001026 <b>Date Issued:</b> 11/12/2023 <b>Valid Up To:</b> 10/12/2024	
<p><i>This certificate shall not be reproduced except in full and any alteration on this document will invalidate this certificate. The Evaluation Report mentioned above forms an integral part of this Certificate. This Document is electronically approved and does not require a signature. To verify the authenticity of this document please scan the above QR Code. This certification is in accordance with Certification Scheme Type 1b as described in ISO/IEC 17067:2013</i></p>		
OPEN-DATA	DM-DCLD-F-IC-5005 R9	
	بلدية دبي A pioneering Municipality for a global city	800 900 dm.gov.ae

	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية	
	Document Title:	TYPE 1 CERTIFICATION - EVALUATION REPORT	عنوان الوثيقة	
	Doc Ref.:	DM-DCLD-F-IC-5004	رقم الوثيقة	

EVALUATION REPORT NO.	RA23052120
DATE	06 <sup>th</sup> December 2023
CLIENT NAME	URBAN GREEN INSULATION AND FIRE PROTECTION LLC (CS-249)
PRODUCT DESCRIPTION	C-COAT T250ST Coating
REFERENCE STANDARD	DM-DCLD-RD32-5104 (IC) Certification of Paints and Coatings AS per Related Sections in Al Sa'fat and Dubai Building Code
SAMPLE ID NO.	AJ4921
APPLICATION NO.	BBC-2023-001026

**DETAILS OF EVALUATION:**

REQUIREMENTS	STANDARD CRITERIA	RESULT	TESTING LABORATORY	TEST REPORT NO.	REMARKS
Solar Reflectance Index (SRI)	Flat and low sloped roofs ≥ 78 (minimum)	102.12 SRI for Low wind (0 to 2 m/s)	DCL-IBMLS	672607(Rev.1)	PASSED
		102.87 SRI for Medium wind (2 to 6 m/s)			
		103.51 SRI for High wind (6 to 10 m/s)			
Volatile Organic Compounds (VOC)	One pack Performance Coating (WB) 140 g/L (Max)	<1	DCL-IBMLS	671082	PASSED
Formaldehyde	< 10mg/Kg (Max)	<10	DCL-IBMLS	671582	PASSED



**FINAL RECOMMENDATION**

Since the above test results satisfactorily complied with the minimum requirements of Type 1 Product Certification Specific Rules for Paint and Coating in accordance with Al Sa'fat and Dubai Building Code, issuance of Certificate of Product Conformity on the above mentioned product is hereby recommended.

Date of Issue : 27/03/2023	Rev. No. : 05
Level of Confidentiality / درجة السرية : سرى / Confidential	of 1 Page 2

مشاركة - سرى / SHARED - SECRET

	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية	
	Document Title:	TYPE 1 CERTIFICATION - EVALUATION REPORT	عنوان الوثيقة	
	Doc Ref.:	DM-DCLD-F-IC-5004	رقم الوثيقة	

EVALUATED BY	NOTED & APPROVED BY
 <b>ABOBACKER MOIDEENKUTTY</b> Products Conformity Officer	 <b>ARIF HUSAIN AL MARZOOQI</b> Manager - Certification and Quality Control of Products Section - (CQPSM)
Date: 06 <sup>th</sup> December 2023	Date: 06 <sup>th</sup> December 2023

Date of Issue : 27/03/2023	Rev. No. : 05
Level of Confidentiality / درجة السرية : سرى / Confidential	of 2 Page 2

مشاركة - سرى / SHARED - SECRET

	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية	
	Document Title:	TEST REPORT VOC CONT.OF PAINTS & RELATED COATINGS BY DIFF. METHOD	عنوان الوثيقة	
	Doc Ref.:	DM-DCLD-F-CM-0100	رقم الوثيقة	

**CONSTRUCTION MATERIAL LABORATORY SECTION  
CHEMICAL ANALYSIS OF CONSTRUCTION MATERIAL UNIT**

Report No:	671082	Request No:	EMTX-2023-0040926
Project No:	CS-249	Report Date:	28/11/2023 08:54AM
Project Name:	URBAN GREEN INSULATION AND FIRE PROTECTION LLC		
Consultant:	DUBAI MUNICIPALITY		
Contractor:	URBAN GREEN INSULATION AND FIRE PROTECTION LLC		
Location: *	FACTORY WAREHOUSE		
Source: *	NOT GIVEN		
Sample Description: *	COATING		
Product Name: *	C-COAT T250ST Coating		
Sampling Date/Time: *	09/11/2023 11:00AM	Lot/Batch/Coil/Heat No. *	#01112022-11-05-1EU
Receiving Date/Time:	21/11/2023 01:10PM	Lot Size: *	10000 litre
Sample Size / Quantity:	1 kilogram	Sender No:	AJ4921
Material/Mix Type: *	NA	Laying Date/Production Date: *	NA
Nominal Size / Working Block Size (mm) : 150 X 150			

**TEST RESULTS**

PARAMETER	RESULTS
VOC content in g/L of the product 'ready for use' (Clause 8.3)	<1
SPECIFICATION LIMIT *	As per Clause [404.01] Al Sa'fat DBC.
Sampled By:	AMKUTTY (DCL)
Sampled Brought By:	AMKUTTY (DCL)
Sampling Method:	SAMPLING AS PER THE RELEVANT SPECIFIC RULES
Test Method:	BS EN ISO 11890-1 : 2007
Remarks:	CUSTOMER PERFORMED SAMPLING AND PROVIDED THE SAMPLE. DENSITY VALUE HAS BEEN TAKEN FROM CUSTOMER PROVIDED DATA. THE RESULTS APPLY ONLY TO THE SAMPLE AS RECEIVED AND TESTED. EXEMPT COMPOUNDS NOT CALCULATED. THIS TEST METHOD IS CHOSEN BY CUSTOMER.

**Disclaimer:** \* Information is supplied by the customer and Laboratory is not responsible for this data.

To verify this document please go to : <https://www.dm.gov.ae/#check-tabs>  
 Enter Document ID: EMTX-2023-0040926 and Verification Code: 1141313  
 or Scan the QR code below.



	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية	
	Document Title:	TEST REPORT VOC CONT.OF PAINTS & RELATED COATINGS BY DIFF. METHOD	عنوان الوثيقة	
	Doc Ref.:	DM-DCLD-F-CM-0100	رقم الوثيقة	


**CONSTRUCTION MATERIAL LABORATORY SECTION  
CHEMICAL ANALYSIS OF CONSTRUCTION MATERIAL UNIT**

Report No:	671082	Request No:	EMTX-2023-0040926
------------	--------	-------------	-------------------

\*\*\* END OF REPORT \*\*\*

This report is computer approved and authorized by Head of Unit and does not require any signature.



	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	
	Document Title:	TEST REPORT FORMALDEHYDE CONTENT OF WATER REDUCIBLE AIR-DRY COATINGS	عنوان الوثيقة:	إدارة دبي Dubai Municipality
	Doc. Ref.:	DM-DCLD-F-CM-0100	رقم الوثيقة:	

**CONSTRUCTION MATERIAL LABORATORY SECTION  
CHEMICAL ANALYSIS OF CONSTRUCTION MATERIAL UNIT**

Report No:	673582	Request No:	EMTX-2023-0040926
Project No:	CS-249	Report Date:	28/11/2023 02:25PM
Project Name:	URBAN GREEN INSULATION AND FIRE PROTECTION L.L.C		
Consultant:	DUBAI MUNICIPALITY		
Contractor:	URBAN GREEN INSULATION AND FIRE PROTECTION L.L.C		
Location: *	FACTORY WAREHOUSE		
Source: *	NOT GIVEN		
Sample Description: *	COATING		
Product Name: *	C-COAT T250ST Coating		
Sampling Date/Time: *	09/11/2023 11:00AM	Lot/Batch/Coil/Heat No. *	#01112022-1105-1EU
Receiving Date/Time:	21/11/2023 01:10PM	Lot Size: *	10000 litre
Sample Size /Quantity:	1 kilogram	Sender No:	AJ4921
Material/Mix Type: *	NA	Laying Date/Production Date: *	NA

Nominal Size / Working Block Size (mm) : 150 X 150


PARAMETER	RESULTS
Formaldehyde Concentration (ppm)	<10
SPECIFICATION LIMIT *	As per Clause [A04.01] AI S/rat DBC.
Sampled By:	AMKUTTY (DCL)
Sampled Brought By:	AMKUTTY (DCL)
Sampling Method:	SAMPLING AS PER THE RELEVANT SPECIFIC RULES
Test Method:	ASTM D6191-97(R2021)
Remarks:	CUSTOMER PERFORMED SAMPLING AND PROVIDED THE SAMPLE, THE RESULTS APPLY ONLY TO THE SAMPLE AS RECEIVED AND TESTED. THIS TEST METHOD IS CHOSEN BY CUSTOMER

**TEST RESULTS**



PARAMETER	RESULTS
Formaldehyde Concentration (ppm)	<10
SPECIFICATION LIMIT *	As per Clause [A04.01] AI S/rat DBC.
Sampled By:	AMKUTTY (DCL)
Sampled Brought By:	AMKUTTY (DCL)
Sampling Method:	SAMPLING AS PER THE RELEVANT SPECIFIC RULES
Test Method:	ASTM D6191-97(R2021)
Remarks:	CUSTOMER PERFORMED SAMPLING AND PROVIDED THE SAMPLE, THE RESULTS APPLY ONLY TO THE SAMPLE AS RECEIVED AND TESTED. THIS TEST METHOD IS CHOSEN BY CUSTOMER

**Disclaimer:** \* Information is supplied by the customer and Laboratory is not responsible for this data.

To verify this document please go to : <https://www.dm.gov.ae/Rcheck-tab5>  
Enter Document ID: **EMTX-2023-0040926** and Verification Code: **1341314**  
or Scan the QR code below.




**\*\*\* END OF REPORT \*\*\***  
*This report is computer approved and authorized by Head of Unit and does not require any signature.*

PO Box 67, Dubai, UAE - Tel: (+971 4) 307216 - Email: lab@dm.gov.ae - Website: <http://www.dm.gov.ae>  
*This report shall not be reproduced except in full without approval of the laboratory.*

Date of Issue:	02/05/2021	Rev No.:	3
Shared - Confidential / حاسن / مشترك	Level of Confidentiality / درجة السرية	Page 1 of 1	

	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	
	Document Title:	TEST REPORT SOLAR REFLECTANCE INDEX (SRI) OF MATERIALS	عنوان الوثيقة:	إدارة دبي Dubai Municipality
	Doc. Ref.:	DM-DCLD-F-CM-0100	رقم الوثيقة:	

**CONSTRUCTION MATERIAL LABORATORY SECTION  
GREEN BUILDING PRODUCT UNIT**

Report No:	672607(Rev.1)	Request No:	EMTX-2023-0040926
Project No:	CS-249	Report Date:	30/11/2023 08:36AM
Project Name:	URBAN GREEN INSULATION AND FIRE PROTECTION L.L.C		
Consultant:	DUBAI MUNICIPALITY		
Contractor:	URBAN GREEN INSULATION AND FIRE PROTECTION L.L.C		
Location: *	FACTORY WAREHOUSE		
Source: *	NOT GIVEN		
Sample Description: *	COATING		
Product Name: *	C-COAT T250ST Coating		
Sampling Date/Time: *	09/11/2023 11:00AM	Lot/Batch/Coil/Heat No. *	#01112022-1105-1EU
Receiving Date/Time:	22/11/2023 07:45AM	Lot Size: *	50000 litre
Sample Size /Quantity:	1 kilogram	Sender No:	AJ4921
Material/Mix Type: *	NA	Laying Date/Production Date: *	NA


Nominal Size / Working Block Size (mm) : 150 X 150

PARAMETER	RESULTS		
SURFACE TEXTURE	SMOOTH		
SPECIMEN THICKNESS (mm)	NG		
TEST CONDITION	23 +/- 2 Degree, 50 +/- 5% RH		
SPECIMEN NO.	1,2,3		
Solar Reflectance (%) as per ASTM C 1549	83.6		
Emittance (α) As Per ASTM C1373	0.79		
Standard Deviation of Reflectance	0.0061		
Standard Deviation of Emittance	0.0060		
Solar Reflectance Index (SRI) for Low Wind (0 to 2 m/s)	102.12		
Solar Reflectance Index (SRI) for Medium Wind (2 to 6 m/s)	102.87		
Solar Reflectance Index (SRI) for High Wind (6 to 10 m/s)	103.51		
Sampled By:	AMKUTTY (DCL)	Tested By:	SSRAJU
Sampled Brought By:	AMKUTTY (DCL)	Testing Date:	22/11/2023 07:45AM
Sampling Method:	SAMPLING AS PER THE RELEVANT SPECIFIC RULES	Sampling Report No:	NA
Test Method:	ASTM E1980-11(2019)	Test Method Variation:	NIL
Remarks:	CUSTOMER PERFORMED SAMPLING AND PROVIDED THE SAMPLE, THE RESULTS APPLY ONLY TO THE SAMPLE AS RECEIVED AND TESTED. - SOLAR REFLECTANCE MEASURED UNDER THE AIR MASS 1.5 - This report supersedes previously issued report no 672607.		



**TEST RESULTS**

**Disclaimer:** \* Information is supplied by the customer and Laboratory is not responsible for this data.

To verify this document please go to : <https://www.dm.gov.ae/Rcheck-tab5>  
Enter Document ID: **EMTX-2023-0040926** and Verification Code: **1341315**  
or Scan the QR code below.




**\*\*\* END OF REPORT \*\*\***  
*This report is computer approved and authorized by Head of Unit and does not require any signature.*

PO Box 67, Dubai, UAE - Tel: (+971 4) 307216 - Email: lab@dm.gov.ae - Website: <http://www.dm.gov.ae>  
*This report shall not be reproduced except in full without approval of the laboratory.*

Date of Issue:	02/05/2021	Rev No.:	3
Shared - Confidential / حاسن / مشترك	Level of Confidentiality / درجة السرية	Page 1 of 2	


	Organization/Unit:	إدارة مختبر دبي المركزي Dubai Central Laboratory Department	الوحدة التنظيمية:	
	Document Title:	TEST REPORT SOLAR REFLECTANCE INDEX (SRI) OF MATERIALS	عنوان الوثيقة:	إدارة دبي Dubai Municipality
	Doc. Ref.:	DM-DCLD-F-CM-0100	رقم الوثيقة:	

**CONSTRUCTION MATERIAL LABORATORY SECTION  
GREEN BUILDING PRODUCT UNIT**



Report No:	672607(Rev.1)	Request No:	EMTX-2023-0040926
------------	---------------	-------------	-------------------

**Disclaimer:** \* Information is supplied by the customer and Laboratory is not responsible for this data.

To verify this document please go to : <https://www.dm.gov.ae/Rcheck-tab5>  
Enter Document ID: **EMTX-2023-0040926** and Verification Code: **1341315**  
or Scan the QR code below.



**\*\*\* END OF REPORT \*\*\***  
*This report is computer approved and authorized by Head of Unit and does not require any signature.*

PO Box 67, Dubai, UAE - Tel: (+971 4) 307216 - Email: lab@dm.gov.ae - Website: <http://www.dm.gov.ae>  
*This report shall not be reproduced except in full without approval of the laboratory.*

Date of Issue:	02/05/2021	Rev No.:	3
Shared - Confidential / حاسن / مشترك	Level of Confidentiality / درجة السرية	Page 2 of 2	

**PRODUCT DESCRIPTION**

C-COAT 200ST – is a water-based thermal insulating barrier, energy preservation coating developed for to block heat transfer over all types of surfaces within the recommended application temperatures. C-COAT 200ST consists of high-temperature acrylic-latex binding with solid and vacuum, microspheres. The combination of the glass/ceramic distribution and sizes of microspheres is designed, to fill as much of the volume as possible, results in C-COAT 200ST exceptional insulating properties. Material is resistant to UV radiation. It contains fungus and mould inhibitors.

NOTE\*: Please pay attention that performance of C-COAT 200ST thermal insulating coating material is application, environment and temperature dependent.

\* For first-time users, consult us direct or your local distributor before use.

**PROPERTIES**

- ✓ Excellent thermal insulating non-flammable material.
- ✓ Providing significant energy savings.
- ✓ Cost effective, with long-term savings and short payback.
- ✓ Reduces cooling energy costs.
- ✓ Non-toxic, water-based, low VOC, UV resistant.
- ✓ Reduces or eliminates CUI.
- ✓ Mould, surface bacteria and moss resistant.
- ✓ Excellent resistance to dirt retention.
- ✓ Moisture resistant.
- ✓ Breathable (will not function as a vapour barrier).
- ✓ Easy to apply in difficult areas.
- ✓ Applied with brush or roller or airless paint sprayer.
- ✓ Space saving.
- ✓ Paintable with High Temperature water-based topcoats.
- ✓ Easy cleanup.
- ✓ 5 Years\* Manufacturer’s Warranty.

\*Manufacturer’s Warranty details available on our website <https://C-COAT.com.au>

**APPLICATION AREAS**

**Energy Savings at Industrial Plants**

- Power plants
- Chemical plants
- Food processing plants
- Oil and gas plants
- Marine and offshore oil platforms

**Energy Savings at homes and commercial properties**

- Roofing and facade protection
- A/C energy reduction
- Indoor comfort improvements
- Maintenance cost reduction

**Automotive industry**

- Trucks and buses heat-blocking systems
- Transport and storage containers

**Defence and Space**

- IR and heat-blocking systems

**Fire and Smoke Protection**

- Surface fire protection with NF modifications

**OHS and Insurance Industry**

- Hot surfaces protection with “Safe to Touch” effect

**Sound Dampening**

- Reduction in sound at particular frequencies

**TYPICAL PROPERTIES**

Packaging	The tight sealed plastic pail
Packaging volume	20 Lit – Standard pail and 5, 10 Lit optional
Colour	“C-COAT WHITE” C(0.0.1); D(0.0.1); L(0.0.6)
Formula base	Water-based styrene acrylic dispersion
VOC (volatile organic compounds)	3.0 [g/Lit] (Test Method DMS 0033: 2016)
	13.0 [g/Lit] Green Building Council AU
Weight	0.6 [kg/Lit] (±3%)
Elongation	Above 50% (ASTM412)
Hardness Shore “A”	A/15:64 (ISO868:2003)
Density	300 kg/m3 (ASTM D 1622-98)
Elasticity of the coated film (Band Test)	5.0 (DSTU ISO 1519)
Thermal conductivity	Tested: 0.035 [W/mK] (ASTM C 518-10)
	Equivalent: 0.0012 - 0.003 [W/mK]
R Value equivalent*	0.5 mm equiv. to R.3 (130mm of glass-wool)
	1.0 mm equiv. to R.4 (200mm of glass-wool)
Solar reflective index	105.3% (ASTM E 1980:11)
Vapour permeability	<2% (DSTU EN 1062-3:2015)
Pull of strength (adhesion) concrete	1.3 [N/mm] (DSTU ISO 4624)
Pull of strength (adhesion) steel	1.0 [N/mm] (DSTU ISO 4624)
Pull of strength (adhesion) brick	1.5 [N/mm] (DSTU ISO 4624)
Combustibility	Non-Flammable AU - AS1530.3 (Spread of Flame - 0, Smoke - 4) EU - PN-EN 13823, ISO 11925 - (8, s1, d0)
Application temperature*	+7°C to +90°C (for higher temp’s use priming)
Operating temperatures*	From -40°C to +200°C (Peak @+250°C for not more than 2 hours)
Drying time at + 20°C in humidity ≤80%	60 min to touch
Storage and transportation temperature	+5°C to +45°C
Resistance to temperatures -40°C to +200°C	No changes after full cure
Application method	Airless sprayer, brush, roller
Abrasion resistance	High
Shelf-life of the material in pail	Up to 24 months from the DOM
Product service life	Thermal properties >10 years.
	Physical properties >20 years
Protecting surface from corrosion formation	500 hours ASTM B117-02 equal to 10 years’ life expectancy
Top coating	Water based solutions - Please contact supplier
Theoretical coverage (add waste and over-spray about 5-10%)	0.5mm DFT thickness = 0.7Lit/m2
	1.0mm DFT thickness = 1.4Lit/m2
Recommended thickness per layer	0.5 - 1.0mm DFT
	0.7 - 1.4mm WFT (vertical surface - horizontal surface)

**COLOUR**

The original colour is "C-COAT WHITE" (similar to RAL9010). If colour is required, the cured coating can be coated with regular acrylic paints, water-based top coats, etc. Ensure that the thickness of C-Coat is such that the surface temp is reduced below the maximum temp of the topcoat. Painting\* over C-Coat may adversely affect its performance. C-Coat can be tinted to suit; however, adding coloured tints to the product may reduce thermal efficiencies (reflectivity), particularly darker pigments. Under high temperatures over the limit specified the exposure colour of the coating could take on a yellowish tinge.

\*Subject to selected colour: The higher the TSR (Total Solar Reflectance value) the better the Performance.

**SURFACE PREPARATIONS**

Remove all grease, oil, dust and other contamination from all surfaces to be coated.

**Galvanised steel, stainless and aluminium substrates:**

The surface must be rinsed with acetic solution in water or with soapy water before using C-COAT. This washing should ensure that all oils and protective substances are removed from the surface so it is ready for application.

**Carbon steel – Minimum clean to Sa2 or Recommended Sa2½ to ISO8501-1**

To improve adhesion, create porous oxide layers and increase the durability of the protective coating, the surface of non-ferrous metals must be cleaned, degreased and electrochemically or chemically oxidised before painting. We strongly recommend using a C-COAT Primer for metal surfaces.

(If other brands of primers are used pay attention to application and surface temperatures.)

Ensure that all of the damaged substrate surfaces are either repaired, including light grinding to remove scratches for better adhesion of the coating, or replaced before applying the coating

**Cleaning method WJ2.5:** – Very thorough high-pressure water jetting which makes use of ultra-high-pressure water that is nonabrasive. Surface must be cleaned to a matte (dull, mottled) finish which, when viewed without magnification, is free of all visible oil, grease, dirt, and rust except for randomly dispersed stains of rust, tightly adherent thin coatings, and other tightly adherent foreign matter. The staining or tightly adherent matter is limited to a maximum of 5% of the surface NACE 5/SSPC 12 1995. After water jetting treatment, it is necessary to rapidly dry the surface. Otherwise, the remaining non-visible moisture will begin the corrosion process. C-COAT Primer for Metal must be applied on dry surface as soon as possible after treatment.

**PRIMING SURFACE with C-COAT PRIMER**

NOTE: For ambient temperatures substrate just do a mist coat of C-COAT and allow drying for about 30 minutes or more before applying the first full coat. A relevant temperature C-COAT Primer Coating is generally only required for substrates above 60°C. Select the C-COAT Primer Coating based on the substrate and temperature limits.

**RECOMMENDED THICKNESS**

Contact your distributor for the recommended coating thickness based on the application, insulating value required and environmental conditions. Request the Calculation Form for your application or refer to Application Graphs published as the application thickness guide.

Generally it is about 0.5-3.0mm for roofs, facades, and 1.0-3.0mm for pipes and process plant parts depending on desired results.

**C-COAT INSULATION AUSTRALIA PTY LTD**

ABN 40 633 636 610

Unit 4, 128 Station Road | Seven Hills NSW 2147 | Australia  
P +61 2 9674 3005 | F + 61 2 9674 8005 | E info@c-coat.com.au

**APPLICATION GUIDELINES**

The C-COAT 200ST is a single pack application and can be applied using any airless sprayer capable of maintaining a pressure of at least 100bar (1500psi) with 35:1 ratio or greater (i.e. GRACO Ultramax II 795 or better). A 523 tip is recommended for most applications, although it will spray through 17-27 thou (1 millimetre is about 39.37 thou) tips of various fan widths.

Remove any skinned product on the surface of the drum before mixing and place in suitable container. Thoroughly mix the product using a jiffy mixer at no more than 80-150rpm.

Add up to 3% by volume of water to improve consistency only if the product has started to lose moisture and consistency. More may be added in hot, dry conditions to assist with spray ability and maintaining consistency in the hopper/pail. For specific applications it is possible to use a hot weather acrylic thinner – (*Hot Weather Thinner is an additive for easing the application of water-based paints under conditions where drying is too rapid due to: high temperatures, low humidity, dry and draughts. It slows the drying and provides a wet edge overcoming brush drag, clogging and poor lapping.*) Talk to your distributor for advice.

If the product has been subjected to low temperatures it may freeze and hence the warranty is void so we recommend NOT using the product.

Spray pressure should be maintained between 800-1200psi. Any higher and cracking of the finished film may occur due to damage of the microspheres. If the coating is applied too thick, "alligator" cracking can occur.

**CURE TIME**

Drying and curing times are determined under controlled temperatures and relative humidity below 85%, and at average of the DFT range for the product.

Substrate temperature	10 °C	15 °C	23 °C	40 °C
Touch dry surface	5.5 h	3 h	2.5 h	1.5 h
Walk-on-dry minimum	24 h	18 h	12 h	8 h
Dry to over coat	24 h	18 h	12 h	8 h
Dried, cured for service	4 d	3 d	24 h	18 h
Full (polymerisation) cure	21-30 days			

**Touch-dry Surface:** The state of drying when slight pressure with a finger does not leave an imprint or reveal tackiness.

**Walk-on-dry:** Minimum time before the coating can tolerate normal foot traffic without permanent marks, imprints, or other physical damage.

**Dry to overcoat, minimum:** The recommended shortest time before the next coat can be applied.

**Dried and cured for service:** Minimum time before the coating can be permanently exposed to the intended environment/medium.

**Full (polymerisation) cure:** Full performance achieved.

**NOTE:** The product is dry to the touch within a few minutes to an hour. The coating reaches full insulating ability AFTER a cure time of approximately 21-30 days, which is dependent upon environmental variables, humidity, and number of coats used. Test of thermal performance should be performed after full cure. Thermal benefits will typically begin to be seen approximately 24 hours after application and will continue to improve as the cure time completes. Final cure is complete when thermal performance has reached a steady state. Cure time won't interfere with normal operations.



## TOP COAT

Most common acrylic paints, aliphatic urethanes and other water-based paints can be painted over the C-COAT 200ST to give the required colour or additional impact resistance/hardness. If the product is to be used in an exposed environment, particularly where water pounding may occur, a waterproof topcoat is recommended, or one of our other topcoats.

Note that for fire-exposed applications, you can use our Intumescent Coating to protect the C-COAT coating.

## CLEAN UP

Protecting the environment is important to the C-COAT team. Clean up with water away from drains. Do not pour leftover coating down the drain. Unwanted volume should be kept in a sealed container and then disposed of via appropriate waste collection services. Empty containers should be left open in a well-ventilated area to dry out. Dispose of empty containers in accordance with local authority's guidelines. Always check with your local council first.

## TYPICAL SERVICE LIFE

Life expectancy for the C-COAT 200ST is >10 years for most applications.

## MAINTENANCE

Minor touch-ups or maintenance are simple. Just clean the surface of dust, grease and oil and other contaminants and re-coat the affected area with spray gun or brush.

For clean-up of a finished coated surfaces, use soapy water and do not wash with high pressure water systems as this may damage to coat unless treated with specified topcoat resistant to required levels.

## STORAGE AND HANDLING PRECAUTIONS

The product should be kept properly closed and stored indoors in a well-ventilated area under normal factory conditions.

Storage at room temperature (20-35°C) also provides a convenient viscosity when handling.

As the product is water-based the storage at low temperatures (below 10°C) is not recommended. This material must be protected from frost conditions.

## HEALTH AND SAFETY

Please observe the precautionary notices displayed on the container. Use under well-ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention must be sought immediately.

## PRODUCT LIMITATIONS

Do not use as a final floor covering.

Do not install where long-term submersion in liquid or continuous exposure to liquids is a possibility.

Do not install over nontreated or damaged surfaces or surfaces in poor conditions, such as those with flaking paint, grease or other contaminants.

Do not allow application to be subject to rain or condensation for at least 72 hours after applying C-COAT as it may blister.

Do not allow application to be subject to freezing temperatures during the first 21-30 days after application or during transport.

Do not rely on visual measurement for coating thickness.

Always use a wet film thickness (WFT) and/or dry film thickness (DFT) gauge in several areas to ensure proper application thickness.

## CAUTION

This product is for professional use only.

The applicators and operators must be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to C-Coat's technical documentation. Refer to C-COAT Applicators Training Manual.

Applicators and operators must use appropriate personal protection equipment when using this product.

This guideline is given based on the current knowledge of the product.

**\* R Value equivalent**

Heat resistance of C-COAT is performance depends on application, heat flux source and direction, environmental conditions and temperature of substrate. "R value equivalent" is including performance of conductivity, convection and radiation/reflection effects.

**\* Application temperature**

The product is to be applied on +7°C to +90°C. If higher temperatures are in place please use C-COAT Hi-Temp Primers or request customisation.

**\* Operating Temperatures**

This modification is designed to work up to 200°C. It will hold the short exposures to a higher temperatures as specified. However, we recommend to use the next size up (C-COAT 300HT) for temperatures above 200°C to avoid burns.

**Limitation of Liability**

The liability on any claim except on those related to C-COAT's negligence are strict limited to the replacement cost, excluding shipping and installation cost, of any C-Coat product and where upon investigation by a suitable person appointed by C-Coat it is found that the product was faulty.

This liability is void if the product was used outside of the guidelines with C-Coat documentation or if the product was not stored correctly once it left C-Coat's control.

This liability does not extend to damage or loss either consequential or incidental damages resulting from the faulty C-Coat product.

**Disclaimer:** The above data, particularly the recommendations for the application and use of C-COAT products, are based on the manufacturer's knowledge and experience.

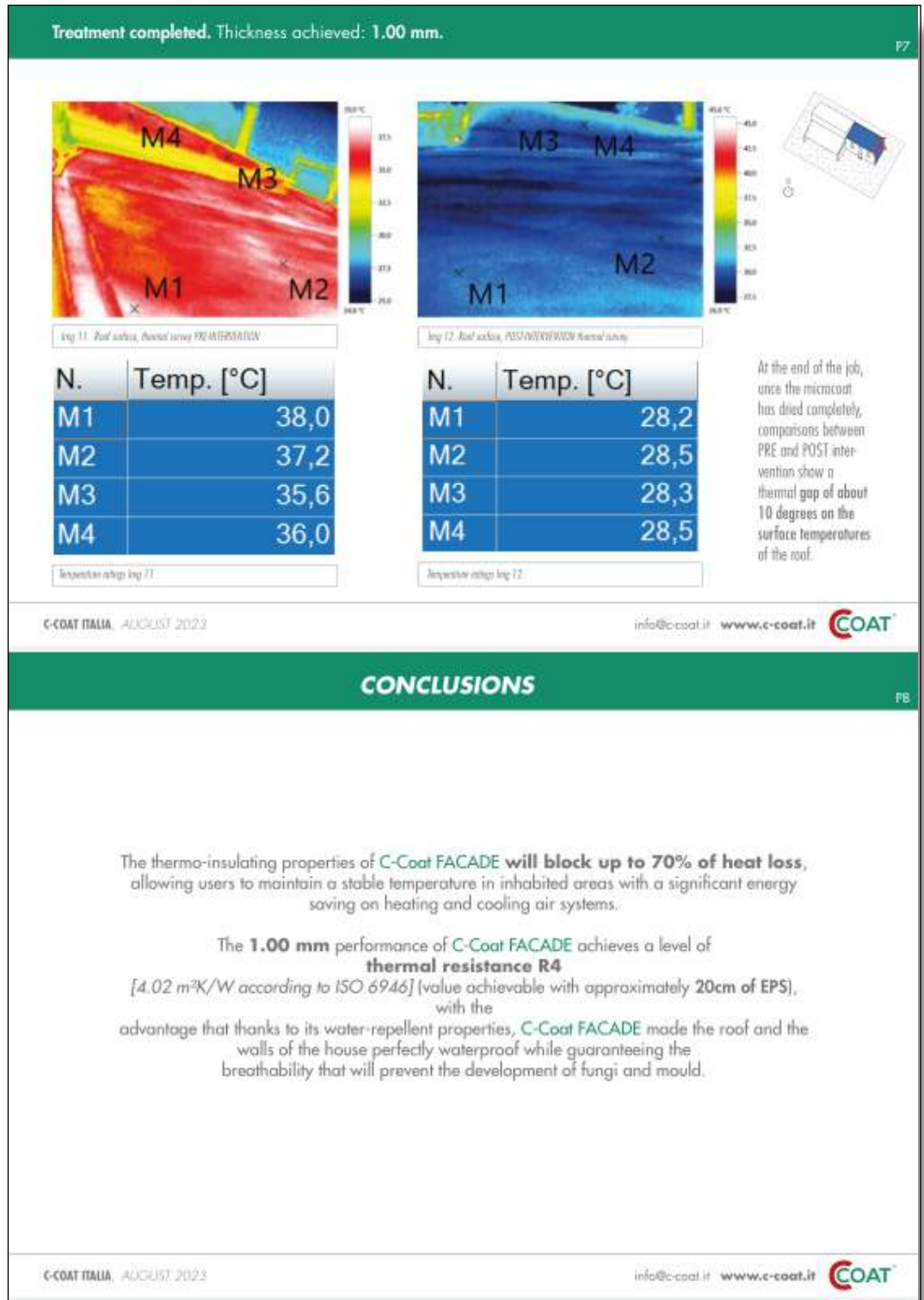
Due to different materials and conditions of application, which are beyond our control, we recommend in any case carrying out sufficient tests to ensure that C-COAT products are suitable for the intended purpose and applications.

Therefore, any liability for such recommendations or any oral advice is expressly excluded unless we have acted willfully or by gross negligence. It is always the responsibility of the installer/ purchaser to guarantee correct preparation, DFT (C-COAT Coatings) and thickness of all C-COAT products, used primers and/or topcoats.

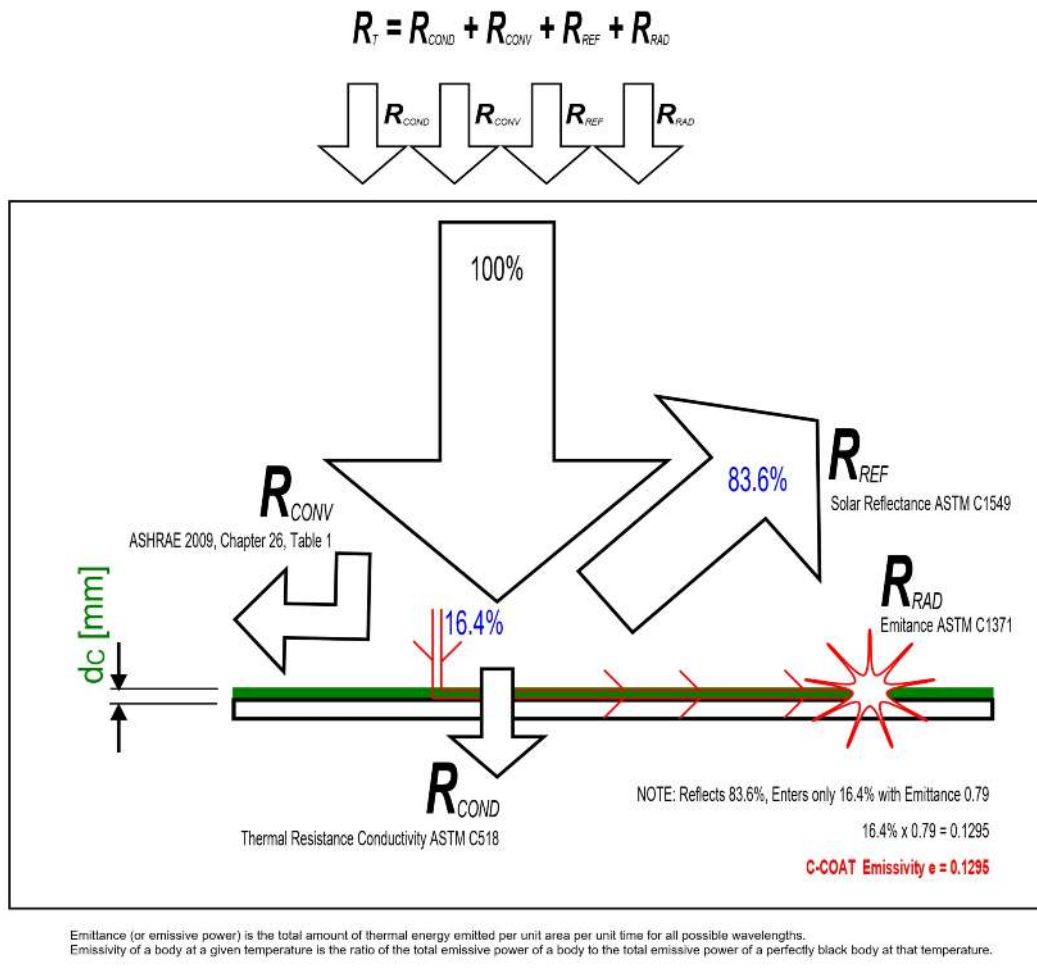
C-COAT Insulation Australia Pty Ltd or any our subsidiary cannot be held liable for installation or faulty installation.

It is always the responsibility of the installer/purchaser to guarantee and certify the installation of materials.

## Support Test Certificates: Field Report - Project Italy



**Support Test Certificates: Thermal Resistance of C-COAT**



The Total Thermal Resistance of C-COAT includes the following:

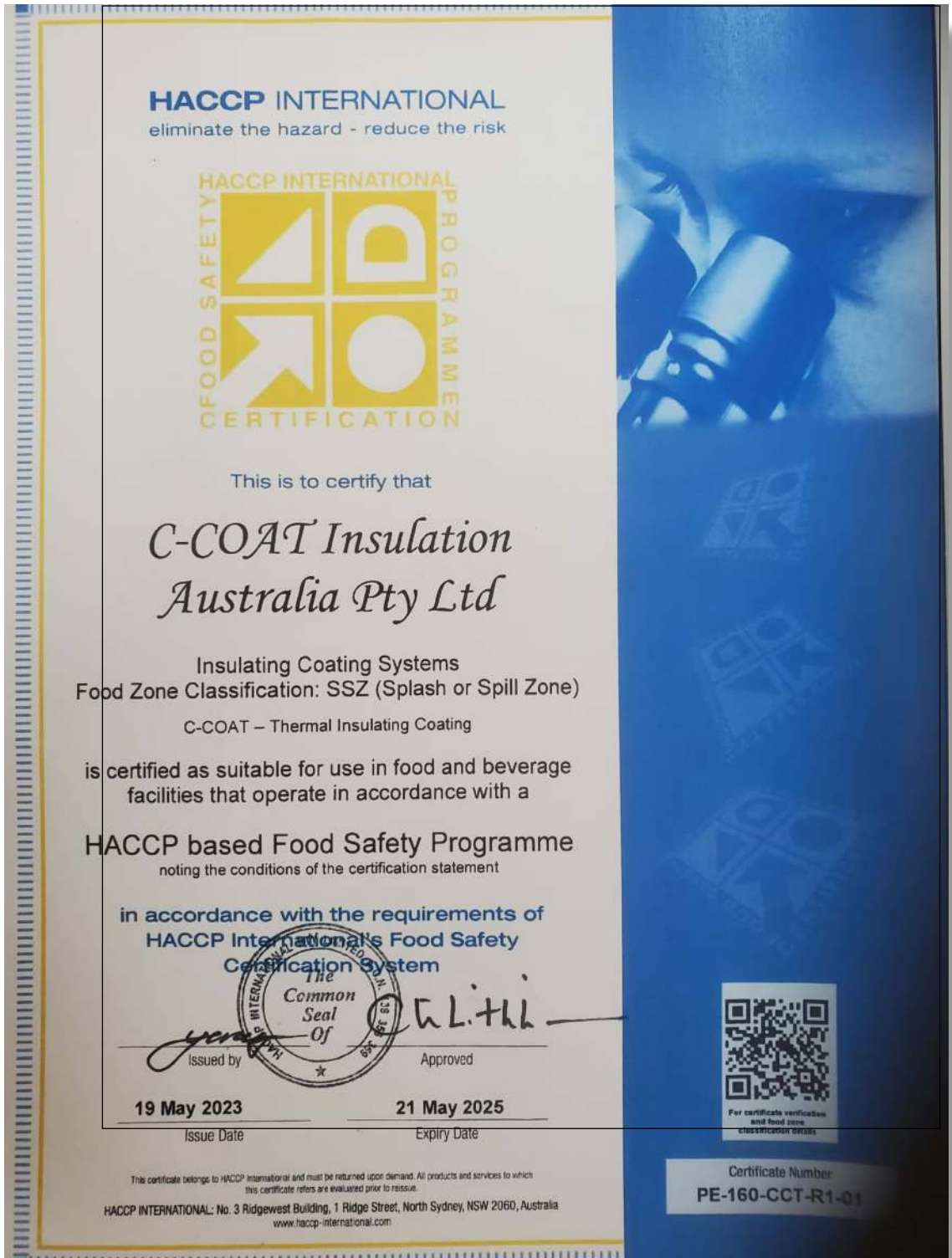
- Conductive thermal resistance **R<sub>cond</sub>** : Laboratory Dubai C-Coat Test results as per ASTM C518-21
- Convective thermal resistance **R<sub>conv</sub>** : ASHRAE 2009, Chapter 26, Table 1, ε=0.1295, Horizontal Downward, Wind (for summer) 3.4 m/s
- Radiative thermal resistance **R<sub>rad</sub>** : John H. Lienhard V, A heat transfer textbook, Ed. 5, Phlogiston Press, Cambridge, 2019
- Reflective thermal resistance **R<sub>refl</sub>** : ASHRAE 2009, Chapter 26, Table 3, ε=0.1295, Horizontal Downward, 90mm Air Space

**For practical applications:**

0.5 mm C-COAT = R 2.5 m<sup>2</sup>K/W (U value = 0.40 W/m<sup>2</sup>K) - referred to C-COAT Modeling file supplied and matching field data

1.0 mm C-COAT = R 4.0 m<sup>2</sup>K/W (U value = 0.25 W/m<sup>2</sup>K) - refer to a Field Report from C-COAT Italy 2023

**Support Test Certificates: HACCP Certificate - Food and beverage facilities safe use**



**C-COAT INSULATION AUSTRALIA PTY LTD**

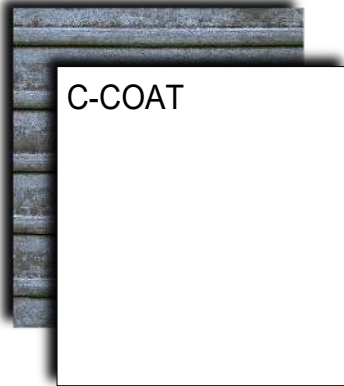
ABN 40 633 636 610

Unit 4 | 128 Station Road | Seven Hills NSW 2147 | Australia  
P +61 9674 3005 | F +61 2 9674 8005 | E info@c-coat.com.au

[c-coat.com.au](http://c-coat.com.au)

**Support Test Certificates: AS 1530.3 Spread of Flame and Smoke Development**

**SUBSTRATE**



Test: **IGNL-4122-03-01C I01R00**

Test Certificate **AS1530.3**

Test Results achieved:

**SF(-) & SD(1)**



**ignis labs**  
**CERTIFICATE**  
Material Fire Test Certificate

IGNL-4122-03-01C I01R00  
Date of Test 20/08/2020  
ISSUED 07/10/2020  
EXPIRY 06/10/2025

AS 1530.3-1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

**Specimen Identification**  
C-Coat

**Specimen Description**  
The sponsor described the tested specimen as White spray or brush on insulation.

**Test Method**  
One specimen was tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, the specimen was clamped to the specimen holder in four places. A waves metal radiant panel was used in lieu of ceramic tiles. The testing of a single specimen is outside the methodology for minimum number of specimens. As a result, this test certificate is based on an indication of performance for a single specimen and shall be used for guidance purposes only.

**Observations**  
Light smoke started after approximately 216 s and the centre of the panel started browning at around 437 s. Cracking lines were observed at the centre of the specimen surface at around 991 s. No ignition was observed.

**PRESENTED TO**  
G Han & HS Kim Consulting  
PO Box 590  
Riverstone NSW 2765

**TEST BODY**  
Ignis Labs Pty Ltd  
ABN 16 620 256617  
PO Box 5174  
Braddon ACT 2612  
www.ignislabs.com.au  
(02) 6111 2909  
Test body is the test location

Parameter	Symbol	Unit	1	2	3	4	5	6	7	8	9
Specimen number											
Ignition time	Ti	min	NA	-	-	-	-	-	-	-	-
Flame Propagation time	Tf	s	-	-	-	-	-	-	-	-	-
Heat release integral		kJ/m <sup>2</sup>	-	-	-	-	-	-	-	-	-
Optical density (ignition)	D	/m	-	-	-	-	-	-	-	-	-
Optical density (non ignition)	D <sub>0</sub>	/m	0.00	-	-	-	-	-	-	-	-
Smoke release (ignition)	Log10(D)		-	-	-	-	-	-	-	-	-
Smoke release (non ignition)	Log10(D)NI		-2.84	-	-	-	-	-	-	-	-

**Calculation**

Parameter	Mean	Standard Error	Comment
Ignition time	-	-	-
Flame Propagation time	-	-	-
Heat release integral	-	-	-
Optical density (ignition)	-	-	-
Optical density (non ignition)	0.00	-	-
Smoke release	-2.84	-	-

**Result**

Indices	Range	Result	BCA Specification CL 10
Ignitability	0-20	-	-
Spread of Flame	0-10	-	9
Heat Evolved	0-10	-	-
Smoke Developed	0-10	0 to 1	8 Pass

**Test Supervisor**  
Darren Laker

**Technical Lead**  
Iram Prakash

**Disclaimer**  
These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test, and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use. The information contained in this document is provided for the sole use of the recipient and no reliance should be placed on the information by any other person. In the event that the information is disclosed or furnished to any other person, the Ignis Labs Pty Ltd accepts no liability for any loss or damage incurred by that person whatsoever as a result of using the information. Copyright © All rights reserved. No part of the content of this document may be reproduced, published, transmitted or adapted in any form or by any means without the written permission of the Ignis Labs Pty Ltd.

Page 1 of 1

Actual photos during and after application - delivered during Nov-Dec 2023



**C-COAT INSULATION AUSTRALIA PTY LTD**  
ABN 40 633 636 610

Unit 4 | 128 Station Road | Seven Hills NSW 2147 | Australia  
P +61 9674 3005 | F +61 2 9674 8005 | E info@c-coat.com.au